



# AUSTRALIAN AIR FORCE CADETS Aviation Safety Bulletin

## AAFC Aviation Safety Bulletin 4/2017 – AAFC Aviation Minimum Aircraft Fuel Policy

### Background

A recent fuel-exhaustion incident occurred during Aero-Tow operations on an AAFC activity. A number of issues may have contributed to this incident, but the result was that a tug-aircraft ran out of fuel shortly after releasing an AAFC/RAAF glider.

### Issue

Whilst there are contributing factors to most aviation incidents the responsibility to take all reasonable steps to ensure the aircraft has sufficient fuel rests with the Pilot in Command. The 'operator' of the aircraft has additional legal responsibilities which are listed below.

In any case in the interest of safety for our Cadets and Staff, AAFC aviation managers have a responsibility to ensure aircraft we operate do not run out of fuel. This includes the education of staff and the promulgation of policy.

### Fuel requirements (*Civil Aviation Regulations 1988 Regulation 234*)

(1) The pilot in command of an aircraft must not commence a flight within Australian territory, or to or from Australian territory, if he or she has not taken reasonable steps to ensure that the aircraft carries sufficient fuel and oil to enable the proposed flight to be undertaken in safety.

Penalty: 50 penalty units.

(2) An operator of an aircraft must take reasonable steps to ensure that an aircraft does not commence a flight as part of the operator's operations if the aircraft is not carrying sufficient fuel and oil to enable the proposed flight to be undertaken in safety.

Penalty: 50 penalty units.

(3) For the purposes of these Regulations, in determining whether fuel and oil carried on an aircraft in respect of a particular flight was sufficient within the meaning of subregulations (1) and (2), a court must, in addition to any other matters, take into account the following matters:

- (a) the distance to be travelled by the aircraft on the flight to reach the proposed destination;
- (b) the meteorological conditions in which the aircraft is, or may be required, to fly;
- (c) the possibility of:
  - (i) a forced diversion to an alternative aerodrome; and
  - (ii) a delay pending landing clearance; and
  - (iii) air traffic control re-routing the flight after commencement of the flight; and
  - (iv) a loss of pressurisation in the aircraft; and
  - (v) where the aircraft is a multi-engined aircraft--an engine failure;
- (d) any guidelines issued from time to time by CASA for the purposes of this regulation.

(4) An offence against subregulation (1) or (2) is an offence of strict liability.

## Guidance

Civil Aviation Advisory Publication 234-1(1) provides guidance for Aircraft Fuel Requirements **and is to be the minimum acceptable fuel policy for all AAFC operations.**

Of particular note are the following requirements:

- A **MINIMUM** of 45 minute 'fixed' fuel reserve;
- A requirement to have a **MINIMUM** of 2 methods of calculating fuel on board

## Additional Requirements for AAFC Aviation Operations

1. Flying time for glider tug aircraft on AAFC operations is limited to **90 minutes** or fuel gauge reaches the limit, (45 minute fixed reserve) whichever is reached first.
2. The RAMP on AAFC aviation activities is to note the following '**User Defined Hazard**' with an appropriate control measure :
  - a. "**Fuel Exhaustion**"

An appropriate control measure should be available from the aircraft operator and may be the company 'fuel policy' or reference to this AAFC Aviation Safety Bulletin (4/2017).

## Piper PA-25 and associated Variants:

- The fuel gauge is designed to read accurately during straight and level flight. Accuracy during other flight attitudes is not guaranteed.
- Due to the shape of the fuel tank, visual inspection of the fuel level is NOT a reliable method of determining fuel level unless tank is filled to capacity, or if the aircraft is not parked on level ground.

## Additional Measures:

- Pilots must check the fuel level before commencing flying operations on a level surface. If there is any doubt about the fuel state of the aircraft the aircraft shall be refueled before commencing operations.
- The pilot shall maintain a log which will include fuel calculations which are to be updated regularly. The pilot in command is required to know the fuel state of the aircraft at all times during operations.
- AVSOP's are to be updated with a Fuel Policy at the next revision of those documents.

## Summary

Without fuel - aircraft engines stop. AAFC Staff responsible for aviation operations have a responsibility to ensure that appropriate measures are in place to support the Pilot in Command and her/his decision-making. These support measures include a robust and conservative fuel policy.

## Authority

This AAFC Aviation Safety Bulletin is issued under the authority of Director Aviation Operations – AAFC.

